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AUTHOR Gillis, M. K.
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ABSTRACT

A study was conducted to evaluate the effect of background knowledge on overall comprehension and comprehension of new information in adult beginning readers. In the study, 40 Adult Basic Education (ABE) students, enrolled in six classes in two instructional sites (one urban and one rural), were presented with two selections about unfamiliar topics, both written on the fourth-grade level. Subjects were assigned to one of four groups. Each group read and answered questions about both selections, one with background and one without background. In the no-background condition, subjects were taught to pronounce vocabulary words and told to read a selection and answer questions about it. In the background condition, subjects were presented with each of the new vocabulary words, taught to pronounce the words, encouraged to discuss what they knew about each word, given additional information about the words, and shown an overhead map that depicted where the action of the selection would take place. After a review of the words, the subjects read the selection and answered questions about it. Overall scores were significantly higher for the background condition than for the no-background condition, but there were no differences in the overall scores between the two selections. Therefore, it was found that the ABE learners had better comprehension of and gained more new information from selections for which they had been helped to build a background. Implications for ABE teachers are that preparing adult learners before starting reading tasks can increase reading performance. (KC)

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EFFECT OF BACKGROUND INFORMATION ON A.B.E. READERS' COMPREHENSION

M.K. Gillis

Southwestern Texas State University

San Marcos, TX 78666

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EFFECT OF BACKGROUND INFORMATION ON A.B.E. READERS' COMPREHENSION

In recent years theories of reading comprehension and recall which stress the importance of pre-existing knowledge or schema have received a lot of attention (Spiro, 1980). Schema theory posits that we build knowledge structures, or schema, based on our experiences; we then comprehend new experiences by relating them to our existing schema. That is we understand the new by relating it to the known. It has been found that adults from different cultural backgrounds interpret the same texts very differently (Joag-dev & Steffensen, 1980). The differences in their interpretations are believed to be based on differences in their backgrounds, which have resulted in their gaining different knowledge structures or schema. Pearson, Hansen, and Gordon (1979) found that young readers' comprehension of text was affected by the background knowledge they brought to the reading situation. Apparently, the more one knows before reading about a topic, the more one gains from reading about the topic.

The purpose of this study was to evaluate the effect of background knowledge on overall comprehension, and comprehension of new information in adult beginning readers. To do this groups of adult beginning readers

were presented with two selections about unfamiliar topics, helped to build a knowledge-base, or schema, for one, and asked to answer questions about both.

Method

Subjects Subjects were 40 Adult Basic Education (A.B.E.) students enrolled in six classes at two instructional sites - one urban and one rural. Subjects were randomly selected from those named by teachers as reading on the equivalent of fourth-grade level.

Materials Two selections from Reading Skill Builders, "The Northern Lights" (Gannon, 1977), and "Stromboli - Island of Fire" (Gaskill, 1977) were used with permission. Both were written on the fourth grade level according to the Fry (1977) graph. Both contained similar science-related information presented in story form, were of approximately equal length, and were judged by the researchers to have content of equal unfamiliarity to the average A.B.E. student. Researcher-made maps on overhead transparencies were used with the background groups. Fifteen item multiple-choice tests were created for each story. Five of these items dealt with words that learners learned to pronounce (no background) or learned meanings and pronunciations (background) of before reading. Ten items were based on new information presented in the selections. (6 literal and 4 higher level).

Procedure The purpose of the study, "to find out more about what helps adults understand and remember what they read," was

explained to the subjects. Subjects were assigned to one of four groups. Each group read and answered questions about both selections, one with background and one without background. The order and conditions were counterbalanced, as illustrated in Figure 1.

In the no background condition subjects were simply taught to pronounce vocabulary words, told they would read a selection containing these words and answer questions about it. Discussion was not allowed. They were then asked to read the selection and answer the questions.

In the background condition subjects were presented with each of the five vocabulary words, taught to pronounce, the words, encouraged to discuss what they knew about each word, given additional information about the words, and shown an overhead map that depicted where the action of the selection would take place. The researcher/teacher then reviewed word meanings and pronunciations, and told subjects they would read a selection containing these words and answer questions about it. Subjects were then asked to read the selection and answer the questions.

Dependent Measures & Analyses Dependent measures were overall raw scores on the tests which followed each selection, and raw scores on the 10 new information items on the tests. T-tests for related measures (Bruning & Kintz, 1977) were conducted for overall scores and new information scores for both selections

(Northern Lights & Stromboli) and for both conditions (No Background and Background). The former were two-tailed tests, to see if there were any differences on scores for selections; the latter were one-tailed tests, to see if the background condition scores were higher than the no background scores.

Results

The results of the analyses are presented in Table 1. They indicated that overall scores were significantly higher for the background condition than for the no background condition ($t_{30}=4.8, p < .001$) but that there were no differences in overall scores between the two selections. The new information scores were also significantly greater for the background condition than for the no background condition ($t_{30}=3.19, p < .005$) with no differences between the new information scores for the two selections.

Discussion

The lack of selection effects indicates that the selections were of equal difficulty and unfamiliarity. The condition, background and no background, effects confirm and extend previous work on the effects of schema or background knowledge, on the comprehension of adults to the A.B.E. population. A.B.E. learners in this study had better comprehension of and gained more new information from selections for which they

had been helped to build a background. Helping these learners to learn not only the pronunciations but also the meanings of important vocabulary terms, encouraging them to discuss the terms and any experiences they had which were related to the terms, and using audiovisual aids to provide more background information before reading paid off.

These results have implications for teaching both reading and content areas in A.B.E. classes - both traditional and competency-based. To improve reading comprehension teachers might spend more time developing meaning vocabulary and encouraging group discussions in which learners and teachers share their knowledge prior to reading. Doing so resulted in better overall comprehension in this study. To facilitate the learning of new information from reading in the study of content areas, teachers might do the same. The selections used in this study had science as a content. Two-thirds of the questions required that the learners recall and understand new information presented in the passages. Those learners who had been helped to build a rich conceptual background prior to reading gained more of this new information than those who had simply learned to pronounce the important words. Preparing learners for reading, whether the reading activity is conducted to help learners improve reading skills or to increase content knowledge, is important. A.B.E.

learners will read and learn better if they are helped to think about and discuss things they already know which are related to the selection they will read, and if important vocabulary and concepts essential to understanding the selection are developed before reading begins.

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FIGURE 1

The Four Experimental Groups

Instructional Site	Group	Condition Order	Selection Order
1	1	Background/ No Background	Northern Lights/ Stromboli
	2	No Background/ Background	Stromboli/ Northern Lights
2	3	No Background/ Background	Northern Lights/ Stromboli
	4	Background/ No Background	Stromboli/ Northern Lights

TABLE 1

T-Tests for Overall & New Information Scores

by Condition & Selection

Raw Scores	Condition					
	Background		No Background			
	M	SD	M	SD	t	p
Overall	11.2	2.4	9.9	3.0	4.8	.001
New Information	7.25	2.0	6.38	2.4	3.19	.005
	Selection					
	Stromboli		Northern Lights			
	M	SD	M	SD	t	p
Overall	10.43	3.1	10.65	2.6	.653	NS
New Information	6.95	2.2	6.68	2.3	.903	NS